

WHAT IS CLAIMED IS:

1. An implantable cardioverter defibrillator for subcutaneous positioning between the third rib and the twelfth rib within a patient, the implantable cardioverter-defibrillator

5 comprising:

a housing;

an electrical circuit located within the housing;

a first electrode coupled to the electrical circuit and located on the housing; and

10 a second electrode coupled to the electrical circuit.

2. The implantable cardioverter-defibrillator of claim 1, wherein at least a portion of the housing is non-planar.

3. The implantable cardioverter-defibrillator of claim 1, wherein the housing has a length of approximately 3 centimeters to approximately 30 centimeters.

4. The implantable cardioverter-defibrillator of claim 1, wherein the housing has a length of approximately 5 centimeters to approximately 20 centimeters.

5. The implantable cardioverter-defibrillator of claim 1, wherein the housing has a length of approximately 5 centimeters to approximately 12 centimeters.

5 6. The implantable cardioverter-defibrillator of claim 1, wherein the housing further comprises a depth, wherein the depth of the housing is less than approximately 15 millimeters.

7. The implantable cardioverter-defibrillator of claim 1, wherein the electrical circuit can provide monophasic waveform cardioversion-defibrillation for a patient's heart.

8. The implantable cardioverter-defibrillator of claim 1, wherein the electrical circuit can provide multiphasic waveform cardioversion-defibrillation for a patient's heart.

9. The implantable cardioverter-defibrillator of claim 8, wherein the electrical circuit can provide biphasic waveform cardioversion-defibrillation for a patient's heart.

10. The implantable cardioverter-defibrillator of claim 8, wherein the electrical circuit can provide triphasic waveform cardioversion-defibrillation for a patient's heart.

5 11. The implantable cardioverter-defibrillator of claim 1, wherein the first electrode can emit an effective field strength for shocking the patient's heart.

10 12. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 25 J to approximately 50 J.

15 13. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 50 J to approximately 75 J.

20 14. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 75 J to approximately 100 J.

15. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 100 J to approximately 125 J.

5 16. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 125 J to approximately 150 J.

10 17. The implantable cardioverter-defibrillator of claim 11, wherein the effective field strength for shocking the patient's heart is approximately 150 J.

15 18. The implantable cardioverter-defibrillator of claim 11, wherein the first electrode can further receive physiological information.

19. The implantable cardioverter-defibrillator of claim 1, wherein the first electrode can receive physiological information.

20 20. The implantable cardioverter-defibrillator of claim 1, wherein at least a portion of the first electrode is non-planar.

21. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially ellipsoidal in
shape.

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22. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially thumbnail shaped.

23. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially circular in shape.

24. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially square in shape.

25. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially rectangular in
shape.

26. The implantable cardioverter-defibrillator of claim 1,
wherein the first electrode is substantially spade shaped.

27. The implantable cardioverter-defibrillator of claim 1, wherein the first electrode is less than approximately 2000 square millimeters in area.

5 28. The implantable cardioverter-defibrillator of claim 27, wherein the first electrode is between approximately 750 square millimeters to approximately 1000 square millimeters in area.

10 29. The implantable cardioverter-defibrillator of claim 27, wherein the first electrode is between approximately 500 square millimeters to approximately 750 square millimeters in area.

15 30. The implantable cardioverter-defibrillator of claim 27, wherein the first electrode is between approximately 250 square millimeters to approximately 500 square millimeters in area.

20 31. The implantable cardioverter-defibrillator of claim 27, wherein the first electrode is between approximately 100 square millimeters to approximately 250 square millimeters in area.

32. The implantable cardioverter-defibrillator of claim 1, wherein at least a portion of the housing surrounding the electrode is ceramic.

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33. The implantable cardioverter-defibrillator of claim 1, wherein the second electrode is located on the housing.

34. The implantable cardioverter-defibrillator of claim 1, wherein the housing further comprises a first end and a second end, wherein the first electrode is located on the first end of the housing and the second electrode is located on the second end of the housing.

35. The implantable cardioverter-defibrillator of claim 1, wherein the second electrode is disposed on a lead.

36. The implantable cardioverter-defibrillator of claim 35, wherein the lead is approximately 5 centimeters to approximately 55 centimeters in length.

37. The implantable cardioverter-defibrillator of claim 36, wherein the lead is approximately 5 centimeters to approximately 15 centimeters in length.

5 38. The implantable cardioverter-defibrillator of claim 36, wherein the lead is approximately 15 centimeters to approximately 25 centimeters in length.

39. The implantable cardioverter-defibrillator of claim 36, wherein the lead is approximately 25 centimeters to approximately 35 centimeters in length.

40. The implantable cardioverter-defibrillator of claim 36, wherein the lead is approximately 35 centimeters to approximately 45 centimeters in length.

41. The implantable cardioverter-defibrillator of claim 36, wherein the lead is approximately 45 centimeters to approximately 55 centimeters in length.

42. The implantable cardioverter-defibrillator of claim 1, wherein the first electrode is positioned approximately in the anterior portion of a patient's ribcage.

5 43. The implantable cardioverter-defibrillator of claim 1, wherein the first electrode is positioned approximately in a parasternal region of the patient.

44. The implantable cardioverter-defibrillator of claim 43, wherein the first electrode is positioned approximately in a left parasternal region of the patient.

45. The implantable cardioverter-defibrillator of claim 1, wherein the second electrode is positioned approximately in a posterior region of a patient's ribcage.

46. The implantable cardioverter-defibrillator of claim 1, wherein the second electrode is positioned approximately in a paraspinal region of the patient.

20 47. The implantable cardioverter-defibrillator of claim 1, wherein the second electrode is positioned approximately in a parascapular region of the patient.

48. The implantable cardioverter-defibrillator of claim 1, wherein the implantable cardioverter-defibrillator further comprises:

5 a first vector end point defining the position of the first electrode;

a second vector end point defining the position of the second electrode;

an origin defining a position approximately within the patent's heart and between the first vector end point and the second vector end point; and

10 a depolarization vector, wherein the depolarization vector defines an angle of separation between the first vector end point and the second vector end point with respect to the origin.

49. The implantable cardioverter-defibrillator of claim 48, wherein the angle of separation is between approximately 30 degrees and approximately 90 degrees.

50. The implantable cardioverter-defibrillator of claim 48, wherein the angle of separation is between approximately 90 degrees and approximately 120 degrees.

5 51. The implantable cardioverter-defibrillator of claim 48, wherein the angle of the separation is between approximately 120 degrees and approximately 150 degrees.

52. The implantable cardioverter-defibrillator of claim 48, wherein the angle of the separation is between approximately 150 degrees and approximately 180 degrees.

53. An implantable cardioverter-defibrillator for subcutaneous positioning between the third rib and the twelfth rib within a patient, the implantable cardioverter-defibrillator comprising:

a housing;

an electrical circuit located within the housing;

a first electrode coupled to the electrical circuit,

20 wherein the first electrode is positioned at a first point with respect to the patient's heart; and

a second electrode coupled to the electrical circuit, wherein the second electrode is positioned at a second point that is substantially on the opposite side of the patient's heart from the first point.

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54. The implantable cardioverter-defibrillator of claim 53, wherein at least a portion of the housing is non-planar.

55. The implantable cardioverter-defibrillator of claim 53, wherein the housing has a length of approximately 3 centimeters to approximately 30 centimeters.

56. The implantable cardioverter-defibrillator of claim 53, wherein the housing has a length of approximately 5 centimeters to approximately 20 centimeters.

57. The implantable cardioverter-defibrillator of claim 53, wherein the housing has a length of approximately 5 centimeters to approximately 12 centimeters.

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58. The implantable cardioverter-defibrillator of claim 53, wherein the housing further comprises a depth, wherein the

cardioverter-defibrillator is less than approximately 15 millimeters.

59. The implantable cardioverter-defibrillator of claim
5 53, wherein the electrical circuit can provide monophasic waveform cardioversion-defibrillation for a patient's heart.

60. The implantable cardioverter-defibrillator of claim
10 53, wherein the electrical circuit can provide multiphasic waveform cardioversion-defibrillation for a patient's heart.

61. The implantable cardioverter-defibrillator of claim
15 60, wherein the electrical circuit can provide biphasic waveform cardioversion-defibrillation for a patient's heart.

62. The implantable cardioverter-defibrillator of claim
20 60, wherein the electrical circuit can provide triphasic waveform cardioversion-defibrillation for a patient's heart.

63. The implantable cardioverter-defibrillator of claim
25 53, wherein the first electrode can emit an effective field strength for shocking the patient's heart.

64. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 25 J to approximately 50 J.

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65. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 50 J to approximately 75 J.

66. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 75 J to approximately 100 J.

67. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 100 J to approximately 125 J.

68. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 125 J to approximately 150 J.

69. The implantable cardioverter-defibrillator of claim 63, wherein the effective field strength for shocking the patient's heart is approximately 150 J.

5 70. The implantable cardioverter-defibrillator of claim 63, wherein the first electrode can further receive sensory information.

71. The implantable cardioverter-defibrillator of claim 53, wherein the first electrode can receive sensory information.

72. The implantable cardioverter-defibrillator of claim 53, wherein at least a portion of the first electrode is non-planar.

73. The implantable cardioverter-defibrillator of claim 53, wherein the first electrode is less than approximately 1000 square millimeters in area.

20 74. The implantable cardioverter-defibrillator of claim 53, wherein at least a portion of the housing surrounding the electrode is ceramic.

75. The implantable cardioverter-defibrillator of claim 53, wherein the second electrode is located on the housing.

5 76. The implantable cardioverter-defibrillator of claim 53, wherein the housing further comprises a first end and a second end, wherein the first electrode is located on the first end of the housing and the second electrode is located on the second end of the housing.

77. The implantable cardioverter-defibrillator of claim 53, wherein the second electrode is disposed on a lead.

78. The implantable cardioverter-defibrillator of claim 5 77, wherein the lead is approximately 5 centimeters to approximately 55 centimeters in length.

79. The implantable cardioverter-defibrillator of claim 20 78, wherein the lead is approximately 5 centimeters to approximately 15 centimeters in length.

80. The implantable cardioverter-defibrillator of claim 78, wherein the lead is approximately 15 centimeters to approximately 25 centimeters in length.

5 81. The implantable cardioverter-defibrillator of claim 78, wherein the lead is approximately 25 centimeters to approximately 35 centimeters in length.

82. The implantable cardioverter-defibrillator of claim 78, wherein the lead is approximately 35 centimeters to approximately 45 centimeters in length.

83. The implantable cardioverter-defibrillator of claim 78, wherein the lead is approximately 45 centimeters to approximately 55 centimeters in length.

84. The implantable cardioverter-defibrillator of claim 53, wherein the first point is approximately in the anterior portion of a patient's ribcage.

20 85. The implantable cardioverter-defibrillator of claim 53, wherein the first point is approximately in a parasternal region of the patient.

86. The implantable cardioverter-defibrillator of claim 85, wherein the first point is approximately in a left parasternal region of the patient.

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87. The implantable cardioverter-defibrillator of claim 53, wherein the second point is approximately in a posterior region of a patient's ribcage.

88. The implantable cardioverter-defibrillator of claim 53, wherein the second point is approximately in a paraspinal region of the patient.

89. The implantable cardioverter-defibrillator of claim 53, wherein the second point is approximately in a parascapular region of the patient.

90. The implantable cardioverter-defibrillator of claim 53, wherein the implantable cardioverter-defibrillator further comprises:

a first vector end point defining the position of the first electrode;

a second vector end point defining the position of the second electrode;

an origin defining a position approximately within the patient's heart and between the first vector end point and the
5 second vector end point; and

a depolarization vector, wherein the depolarization vector defines an angle of separation between the first vector end point and the second vector end point with respect to the origin.

91. The implantable cardioverter-defibrillator of claim 90, wherein the angle of separation is between approximately 30 degrees and approximately 90 degrees.

92. The implantable cardioverter-defibrillator of claim 90, wherein the angle of separation is between approximately 90 degrees and approximately 120 degrees.

93. The implantable cardioverter-defibrillator of claim 90, wherein the angle of separation is between approximately 120 degrees and approximately 150 degrees.

94. The implantable cardioverter-defibrillator of claim 90, wherein the angle of separation is between approximately 150 degrees and approximately 180 degrees.

5 95. An implantable cardioverter defibrillator for subcutaneous positioning between the third rib and the twelfth rib within a patient, the implantable cardioverter-defibrillator comprising:

a housing;

an electrical circuit located within the housing;

a first electrode coupled to the electrical circuit;

and

a second electrode coupled to the electrical circuit,

wherein the second electrode is positioned approximately 30 degrees to approximately 180 degrees, with respect to the patient's heart, apart from the first electrode.

96. The implantable cardioverter-defibrillator of claim 95, wherein at least a portion of the housing is non-planar.

97. The implantable cardioverter-defibrillator of claim 95, wherein the housing has a length of approximately 3 centimeters to approximately 30 centimeters.

5 98. The implantable cardioverter-defibrillator of claim 95, wherein the housing has a length of approximately 5 centimeters to approximately 20 centimeters.

99. The implantable cardioverter-defibrillator of claim 95, wherein the housing has a length of approximately 5 centimeters to approximately 12 centimeters.

100. The implantable cardioverter-defibrillator of claim 95, wherein the housing further comprises a depth, wherein the cardioverter-defibrillator is less than approximately 15 millimeters.

101. The implantable cardioverter-defibrillator of claim 95, wherein the electrical circuit can provide monophasic waveform cardioversion-defibrillation for a patient's heart.

102. The implantable cardioverter-defibrillator of claim 95, wherein the electrical circuit can provide multiphasic waveform cardioversion-defibrillation for a patient's heart.

5 103. The implantable cardioverter-defibrillator of claim 102, wherein the electrical circuit can provide biphasic waveform cardioversion-defibrillation for a patient's heart.

104. The implantable cardioverter-defibrillator of claim 102, wherein the electrical circuit can provide triphasic waveform cardioversion-defibrillation for a patient's heart.

105. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode can emit an effective field strength for shocking the patient's heart.

106. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 25 J to approximately 50 J.

107. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 50 J to approximately 75 J.

5 108. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 75 J to approximately 100 J.

109. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 100 J to approximately 125 J.

110. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 125 J to approximately 150 J.

111. The implantable cardioverter-defibrillator of claim 105, wherein the effective field strength for shocking the patient's heart is approximately 150 J.

112. The implantable cardioverter-defibrillator of claim 105, wherein the first electrode can further receive sensory information.

5 113. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode can receive sensory information.

114. The implantable cardioverter-defibrillator of claim 95, wherein at least a portion of the first electrode is non-planar.

115. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is less than approximately 2000 square millimeters in area.

116. The implantable cardioverter-defibrillator of claim 95, wherein at least a portion of the housing surrounding the electrode is ceramic.

20 117. The implantable cardioverter-defibrillator of claim 95, wherein the second electrode is located on the housing.

118. The implantable cardioverter-defibrillator of claim 95, wherein the housing further comprises a first end and a second end, wherein the first electrode is located on the first end of the housing and the second electrode is located on the second end of the housing.

119. The implantable cardioverter-defibrillator of claim 95, wherein the second electrode is disposed on a lead.

120. The implantable cardioverter-defibrillator of claim 119, wherein the lead is approximately 5 centimeters to approximately 55 centimeters in length.

121. The implantable cardioverter-defibrillator of claim 120, wherein the lead is approximately 5 centimeters to approximately 15 centimeters in length.

122. The implantable cardioverter-defibrillator of claim 120, wherein the lead is approximately 15 centimeters to approximately 25 centimeters in length.

123. The implantable cardioverter-defibrillator of claim 120, wherein the lead is approximately 25 centimeters to approximately 35 centimeters in length.

5 124. The implantable cardioverter-defibrillator of claim 120, wherein the lead is approximately 35 centimeters to approximately 45 centimeters in length.

125. The implantable cardioverter-defibrillator of claim 120, wherein the lead is approximately 45 centimeters to approximately 55 centimeters in length.

126. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is positioned approximately in the anterior portion of a patient's ribcage.

127. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is positioned approximately in a parasternal region of the patient.

128. The implantable cardioverter-defibrillator of claim 127, wherein the first electrode is positioned approximately in a left parasternal region of the patient.

5 129. The implantable cardioverter-defibrillator of claim 95, wherein the second electrode is positioned approximately in a posterior region of a patient's ribcage.

130. The implantable cardioverter-defibrillator of claim 95, wherein the second electrode is positioned approximately in a paraspinal region of the patient.

131. The implantable cardioverter-defibrillator of claim 95, wherein the second electrode is positioned approximately in a parascapular region of the patient.

132. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is approximately 30 degrees to approximately 60 degrees apart from the second electrode, with
20 respect to the patient's heart.

133. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is approximately 60 degrees to approximately 90 degrees apart from the second electrode, with respect to the patent's heart.

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134. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is approximately 90 degrees to approximately 120 degrees apart from the second electrode, with respect to the patent's heart.

135. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is approximately 120 degrees to approximately 150 degrees apart from the second electrode, with respect to the patent's heart.

136. The implantable cardioverter-defibrillator of claim 95, wherein the first electrode is approximately 150 degrees to approximately 180 degrees apart from the second electrode, with respect to the patent's heart.

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137. A method of inserting an implantable cardioverter-defibrillator within a patient, the method comprising the steps of:

providing a cardioverter-defibrillator comprising a housing, an electrical circuit located within the housing, a first electrode located on the housing, and a second electrode;

making a single incision into the patient;

advancing the cardioverter-defibrillator through the single incision and subcutaneously over approximately the anterior portion of a patient's ribcage; and

orienting the second electrode on substantially the opposite side of a patient's heart from the first electrode.

138. The method of claim 137, wherein at least a portion of the cardioverter-defibrillator is non-planar.

139. The method of claim 137, wherein the cardioverter-defibrillator has a length of approximately 3 centimeters to approximately 30 centimeters.

140. The method of claim 137, wherein the cardioverter-defibrillator has a length of approximately 5 centimeters to approximately 20 centimeters.

5 141. The method of claim 137, wherein the cardioverter-defibrillator has a length of approximately 5 centimeters to approximately 12 centimeters.

142. The method of claim 137, wherein the cardioverter-defibrillator further comprises a depth, wherein the cardioverter-defibrillator is less than approximately 15 millimeters.

143. The method of claim 137, wherein the electrical
15 circuit can provide monophasic waveform cardioversion-defibrillation for a patient's heart.

144. The method of claim 137, wherein the electrical
20 circuit can provide multiphasic waveform cardioversion-defibrillation for a patient's heart.

145. The method of claim 144, wherein the electrical circuit can provide biphasic waveform cardioversion-defibrillation for a patient's heart.

5 146. The method of claim 144, wherein the electrical circuit can provide triphasic waveform cardioversion-defibrillation for a patient's heart.

147. The method of claim 137, wherein the first electrode can emit an effective field strength for shocking the patient's heart.

148. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 25 J to approximately 50 J.

149. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 50 J to approximately 75 J.

150. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 75 J to approximately 100 J.

5 151. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 100 J to approximately 125 J.

152. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 125 J to approximately 150 J.

153. The method of claim 147, wherein the effective field strength for shocking the patient's heart is approximately 150 J.

154. The method of claim 147, wherein the first electrode can further receive sensory information.

20 155. The method of claim 137, wherein the first electrode can receive sensory information.

156. The method of claim 137, wherein at least a portion of the first electrode is non-planar.

157. The method of claim 137, wherein the first electrode
5 is less than approximately 2000 square millimeters in area.

158. The method of claim 137, wherein at least a portion of the housing surrounding the electrode is ceramic.

159. The method of claim 137, wherein the second electrode
is located on the housing.

160. The method of claim 137, wherein the housing further
comprises a first end and a second end, wherein the first
15 electrode is located on the first end of the housing and the
second electrode is located on the second end of the housing.

161. The method of claim 137, wherein the second electrode
is disposed on a lead.

162. The method of claim 161, wherein the lead is approximately 5 centimeters to approximately 55 centimeters in length.

5 163. The method of claim 161, wherein the lead is approximately 5 centimeters to approximately 15 centimeters in length.

164. The method of claim 161, wherein the lead is approximately 15 centimeters to approximately 25 centimeters in length.

165. The method of claim 161, wherein the lead is approximately 25 centimeters to approximately 35 centimeters in length.

166. The method of claim 161, wherein the lead is approximately 35 centimeters to approximately 45 centimeters in length.

167. The method of claim 161, wherein the lead is approximately 45 centimeters to approximately 55 centimeters in length.

5 168. The method of claim 137, wherein the single incision is made approximately at the level of the cardiac apex.

169. The method of claim 137, wherein the single incision is made approximately in the left anterior axillary line.

170. The method of claim 137, wherein the first electrode is advanced approximately in a parasternal region of the patient.

171. The method of claim 170, wherein the first electrode is advanced approximately in a left parasternal region of the patient.

172. The method of claim 137, wherein the second electrode is oriented approximately in a posterior region of a patient's ribcage.

173. The method of claim 137, wherein the second electrode is oriented approximately in a paraspinal region of the patient.

174. The method of claim 137, wherein the second electrode
5 is oriented approximately in a parascapular region of the patient.

175. The method of claim 137, wherein the first electrode is approximately 30 degrees to approximately 60 degrees apart from the second electrode, with respect to the patent's heart.

176. The method of claim 137, wherein the first electrode is approximately 60 degrees to approximately 90 degrees apart from the second electrode, with respect to the patent's heart.

177. The method of claim 137, wherein the first electrode is approximately 90 degrees to approximately 120 degrees apart from the second electrode, with respect to the patent's heart.

20 178. The method of claim 137, wherein the first electrode is approximately 120 degrees to approximately 150 degrees apart from the second electrode, with respect to the patent's heart.

179. The method of claim 137, wherein the first electrode is approximately 150 degrees to approximately 180 degrees apart from the second electrode, with respect to the patient's heart.

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180. A method of inserting an implantable cardioverter-defibrillator within a patient, the method comprising the steps of:

providing a cardioverter-defibrillator comprising a housing, an electrical circuit located within the housing, a first electrode located on the housing, and a second electrode;

making a single incision into the patient;

advancing the cardioverter-defibrillator through the single incision and subcutaneously over approximately the posterior portion of a patient's ribcage; and

orienting the second electrode on substantially the opposite side of a patient's heart from the first electrode.

181. The method of claim 180, wherein at least a portion of the cardioverter-defibrillator is non-planar.

182. The method of claim 180, wherein the cardioverter-defibrillator has a length of approximately 3 centimeters to approximately 30 centimeters.

5 183. The method of claim 180, wherein the cardioverter-defibrillator has a length of approximately 5 centimeters to approximately 20 centimeters.

184. The method of claim 180, wherein the cardioverter-defibrillator has a length of approximately 5 centimeters to approximately 12 centimeters.

185. The method of claim 180, wherein the cardioverter-defibrillator further comprises a depth, wherein the cardioverter-defibrillator is less than approximately 15 millimeters.

186. The method of claim 180, wherein the electrical circuit can provide monophasic waveform cardioversion-defibrillation for a patient's heart.

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187. The method of claim 180, wherein the electrical circuit can provide multiphasic waveform cardioversion-defibrillation for a patient's heart.

5 188. The method of claim 187, wherein the electrical circuit can provide biphasic waveform cardioversion-defibrillation for a patient's heart.

189. The method of claim 187, wherein the electrical circuit can provide triphasic waveform cardioversion-defibrillation for a patient's heart.

190. The method of claim 180, wherein the first electrode can emit an effective field strength for shocking the patient's heart.

191. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 25 J to approximately 50 J.

192. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 50 J to approximately 75 J.

5 193. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 75 J to approximately 100 J.

194. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 100 J to approximately 125 J.

195. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 125 J to approximately 150 J.

196. The method of claim 190, wherein the effective field strength for shocking the patient's heart is approximately 150 J.

20 197. The method of claim 190, wherein the first electrode can further receive sensory information.

198. The method of claim 180, wherein the first electrode can receive sensory information.

5 199. The method of claim 180, wherein at least a portion of the first electrode is non-planar.

200. The method of claim 180, wherein the first electrode is less than approximately 100 square millimeters in area.

201. The method of claim 180, wherein at least a portion of the housing surrounding the electrode is ceramic.

202. The method of claim 180, wherein the second electrode is located on the housing.

203. The method of claim 180, wherein the housing further comprises a first end and a second end, wherein the first electrode is located on the first end of the housing and the
20 second electrode is located on the second end of the housing.

204. The method of claim 180, wherein the second electrode is disposed on a lead.

205. The method of claim 204, wherein the lead is approximately 5 centimeters to approximately 55 centimeters in length.

206. The method of claim 204, wherein the lead is approximately 5 centimeters to approximately 15 centimeters in length.

207. The method of claim 204, wherein the lead is approximately 15 centimeters to approximately 25 centimeters in length.

208. The method of claim 204, wherein the lead is approximately 25 centimeters to approximately 35 centimeters in length.

209. The method of claim 204, wherein the lead is approximately 35 centimeters to approximately 45 centimeters in length.

210. The method of claim 204, wherein the lead is approximately 45 centimeters to approximately 55 centimeters in length.

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211. The method of claim 180, wherein the first electrode is advanced approximately in a paraspinal region of the patient.

212. The method of claim 180, wherein the first electrode is advanced approximately in a parascapular region of the patient.

213. The method of claim 180, wherein the second electrode is oriented approximately in a parasternal region of the patient.

214. The method of claim 213, wherein the second electrode is oriented approximately in a left parasternal region of the patient.

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215. The method of claim 180, wherein the first electrode is approximately 30 degrees to approximately 60 degrees apart from the second electrode, with respect to the patent's heart.

5 216. The method of claim 180, wherein the first electrode is approximately 60 degrees to approximately 90 degrees apart from the second electrode, with respect to the patent's heart.

217. The method of claim 180, wherein the first electrode is approximately 90 degrees to approximately 120 degrees apart from the second electrode, with respect to the patent's heart.

218. The method of claim 180, wherein the first electrode is approximately 120 degrees to approximately 150 degrees apart from the second electrode, with respect to the patent's heart.

219. The method of claim 180, wherein the first electrode is approximately 150 degrees to approximately 180 degrees apart from the second electrode, with respect to the patent's heart.